

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Sakuma, K., et al.  
Appl. No.: Unknown  
Filed: January 29, 2002  
Title: Manufacturing Method For Optical Coupler/Splitter And Method For Adjusting  
Optical Characteristics of Planar Lightwave Circuit Device  
Art Unit: Unknown  
Examiner: Unknown  
Docket No.: 113197-023

10/060797  
01/29/02  
#2  
105

Assistant Commissioner for Patents  
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 37 C.F.R. 1.97, and 37 C.F.R. 1.98, Applicants request that a citation and examination of the references cited below, and on the attached PTO-1449 form, copies of which are enclosed, be made during the course of examination of the above-identified application for United States patent.

**U.S. PATENT DOCUMENTS**

<u>Document No.</u>	<u>Date</u>	<u>Inventor</u>
5,978,538	November 2, 1999	Miura et al.
6,154,593	November 28, 2000	Miura et al.

**FOREIGN PATENT DOCUMENTS**

<u>Document No.</u>	<u>Date</u>	<u>Country</u>
9-311237	December 2, 1997	Japan
10-288799	October 27, 1998	Japan
11-167036	June 22, 1999	Japan
11-231151	August 27, 1999	Japan

**OTHER DOCUMENTS**

Davis, K., et al., "Writing waveguides in glass with a femtosecond laser," Optics Letters, Vol. 21, No. 21, November 1, 1996, pp. 1729-1731.

- Miura, K., et al., "Photowritten optical waveguides in various glasses with ultrashort pulse laser," *Applied Physics Letter*, Vol. 71, No. 23, December 8, 1997, pp. 3329-3331.
- Miura, K., et al., "Photo-Induced Refractive Index Changes in Glasses with Ultra-Short Pulse Laser," *Laser Review*, February, 1998, pp. 150-154.
- Miura, K., "Photowritten Optical Waveguide in Various Glasses with a Femtosecond Laser," *Hirao Active Glass Project NEWS Final*, August 1999, pp. 5-12.
- Miura, K., et al., "Preparation and optical properties of fluoride glass waveguides induced by laser pulses," *Journal of Non-Crystalline Solids* 256&257, 1999, pp. 212-219.
- Homoelle, D., et al., "Infrared photosensitivity in silica glasses exposed to femtosecond laser pulses," *Optics Letters*, Vol. 24, No. 18, September 15, 1999, 1999, pp. 1311-1313.
- Kondo, Y., et al., "Glass machining by femtosecond laser pulses," *Jpn. Journal Applied Physics*, Vol. 69, No. 4, 2000, pp. 411-414.
- Streltsov, A., et al., "Fabrication and analysis of a directional coupler written in glass by nanojoule femtosecond laser pulses," *Optics Letters*, Vol. 26, No. 1, January 1, 2001, pp. 42-43.
- Schaffer, C., et al., "Micromachining bulk glass by use of femtosecond laser pulses with nanojoule energy," *Optics Letters*, Vol. 26, No. 2, January 15, 2001, pp. 93-95.
- Schaffer, C., et al., "Micromachining using ultrashort pulses from a laser oscillator," *Optics & Photonics News*, April 2001, pp. 20-23.
- Sudrie, L., et al., "Study of damage in fused silica induced by ultra-short IR laser pulses," *Optics Communications* 191, May 8, 2001, pp. 333-339.
- Minoshima, K., et al., "Femtosecond nonlinear fabrication of glass photonic devices by an unamplified laser," *The 8<sup>th</sup> International Workshop on Femtosecond Technology*, June 28-29, 2001, Tsukuba, Japan, pp. 159.
- Efimov, O., et al., "Waveguide writing in chalcogenide glasses by a train of femtosecond laser pulses," *Optical Materials* 17, (2001), pp. 379-386.

Some of these cited references are in the Japanese language. English abstracts are included for all those references except for the reference Kondo, Y., et al., Glass machining by femtosecond laser pulses," Jpn. Journal Applied Physics, Vol. 69, No. 4, 2000, pp. 411-414.

Applicants look forward to early and favorable consideration of this matter.

Respectfully submitted,

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<b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b> (Use several sheets if necessary)  PTO Form 1449	Atty Docket No. 113197-023	Application No. Unknown
	Applicant Sakumo, K., et al.	
	Filing Date January 29, 2002	Group Unknown

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U.S. PATENT DOCUMENTS						
Examiner's Initials	Document Number	Publication Date	Inventor	Class	Subclass	Filing Date If Appropriate
	5,978,538	11-2-99	Miura et al.			
	6,154,593	11-28-00	Miura et al.			

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						Yes	No	
	9-311237	12-2-97	Japan					
	10-288799	10-27-98	Japan					
	11-167036	6-22-99	Japan					
	11-231151	8-27-99	Japan					

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	Davis, K., et al., "Writing waveguides in glass with a femtosecond laser," Optics Letters, Vol. 21, No. 21, November 1, 1996, pp. 1729-1731.
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	Kondo, Y., et al., "Glass machining by femtosecond laser pulses," Jpn. Journal Applied Physics, Vol. 69, No. 4, 2000, pp. 411-414.
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